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Agency: **540 Employment Security Department**

Decision Package Code/Title: **AU UI Storage Server Consolidation**

Budget Period: **2005-07**

Budget Level: **PL - Performance Level**

Recommendation Summary Text:

Funds are required to replace and consolidate inefficient/end of life resource and storage server devices supporting staff at the Unemployment Insurance (UI) Division's Maple Park facility. This initiative will provide complete system redundancy, automated online staff retrieval of resource data and data availability to all UI business units. Improved system efficiencies will eliminate repetitive and costly data center electrical and cooling upgrades and site expansion requirements. Collateral benefits will be accrued through reduction of wasted staff FTE hours spent recreating or duplicating lost or accidentally deleted data, the creation of auditable logging of all UI network data and reduction of associated technical support costs.

Fiscal Detail

Operating Expenditures	FY 2006	FY 2007	Total
119-2 Unemployment Compensation Admin-Federal	99,465		99,465
Total Cost	**99,465**		**99,465**

Revenue

Fund	Source	FY 2006	FY 2007	Total
119 Unemploy Comp Admin	0317 Dept of Labor	99,465		99,465
Total Revenue		**99,465**		**99,465**

Package Description:

This package describes the replacement and consolidation of all the current UI Maple Park facility's network data resources to include file, print, backup, anti virus and application service hardware. This takes several devices and replaces them with one device, thus saving in building resources (Air Conditioning, Power, Floor Space, etc.) The hardware consolidation of these services will eliminate the loss of network data through the incorporation of completely redundant systems. Data loss elimination and the resulting increase in staff efficiencies through effective, streamlined business unit management of network based resources will provide direct customer service improvements for all UI staff. This decision package supports activity A007 Unemployment Insurance, Benefits and Taxation.

Narrative Justification and Impact Statement

How contributes to strategic plan:
The benefits of this decision package directly support the UI Division's Strategic Business Plan goals. All UI staff depend upon the 24/7 availability of their network data to support every one of their business goals and processes from providing timely and accurate benefits as well as timely collecting and accurate reporting of taxes to exceptional customer service provision and increased program efficiencies. The resulting migration and reorganization of the current network data into the proposed consolidated environment will provide an exceptional opportunity for UI business units to develop customized team based access strategies in direct support of their unique business processes and goals. UI management

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directed data organization goals will provide the required structure and appropriate access levels necessary to ensure mandated protection of sensitive data while simultaneously allowing for business unit driven flexibility. On/off site storage and retrieval capabilities will ensure compliance with all federal and state data retention parameters while simultaneously facilitating compliance with related laws, codes and policies.

A dependable and accessible data resource network that protects against all viral threats, provides instantaneous access to current and previous file versions, quickly prints documents without issues and offers both on and off site data storage is essential for UI division's performance driven success.

This direction will also eliminate the need to upgrade the computer facilities at Maple Park by effectively utilizing current Air Conditioning, Power and Floor Space at the Maple Park facility.

This decision package supports Information Technology Services Division goal for ensuring servers are available for more than 99% of the time.

Performance Measure Detail

Activity: A007   **Unemployment Insurance, Benefits, and Taxation**

Incremental Changes

No measures submitted for package

Reason for change:

Historically, the Maple Park facility's data resource and storage systems were planned, funded and implemented independently of one another. Original use of the network based resources reflected the limited dependence by UI staff due to the realities of the predominantly paper driven business processes. No system wide planning was used to develop and organize the network resources resulting in a hodgepodge of independent and difficult to access islands of data. As UI's dependence on electronic data increased and critical business success became dependent on staff's word processing documents, electronic fiscal spreadsheets and personal email folders storing years of essential and often referenced correspondence, the unstructured and non redundant data network resources soon became archaic and cumbersome along with many other Information Technology resources. Other critical agency wide IT infrastructure components received much needed funding while the specific UI Division related network data resources went unfunded for the past two program years.

Even with active monitoring and data management, the primary data resource servers have reached their storage limits many times over the past two years. These occurrences have resulted in system failures and data loss, often during peak business hours. Hundreds of hours of additional UI staff investment resulted from the need to recreate lost data. Several stop gap efforts such as implementing off line storage of data to compact disks for data intensive business processes has created confusing and inefficient retrieval procedures compounded by staff reluctance to save critical data to network based resources, further jeopardizing data integrity through the use of non redundant PC based storage.

The undependable nature of the Maple Park's anti virus server resulted in the facility's UI staff PCs using an offsite server housed in the agency's primary Lacey location, further exacerbating network bandwidth issues. In an effort to reduce resource server workload, print server services were migrated to other servers currently needed for use in the development of a test network. Additionally, vital UI applications are located on these resource servers creating more demand on their very limited processing power while not being accessible when server storage limits are maximized. Consolidating this aged and diverse resource environment will provide an all around enhancement to UI staff's ability to perform their jobs in direct support of the division's performance measures.

Direct cost savings are gained for the UI Division from the consolidation of seven older and inefficient network devices onto a smaller and very efficient blade center device. These gains are accrued in the following manner:

· Regain data center space.
The seven servers and tape library currently consume the physical space of one rack (73.5 inches or 42 U-1U=1.75 inches). The proposed blade center is 12.5 inches or 7 U in size, regaining 61 inches (almost 35 U) of usable space.

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· Leverage current data center electrical capacities.
 An anticipated electrical capacity savings in excess of 50% of the current listed server usage.

· Leverage current data center air conditioning capacities.
 An anticipated 50% decrease in current cooling requirements of the listed servers.

· Reduction of network traffic and bandwidth utilization.
All blade server cross communication occurs within the blade center and does not compete for Maple Park network capacities. This is especially efficient for backups.

· Increased technical support environment efficiencies.
The blade center Management Module provides support flexibility through the availability of remote access for server installation, configuration and maintenance by network technicians and centralized IT management control mechanisms.

· Direct and instantaneous online UI staff access to previous versions of erroneously deleted or modified network files.
 Currently, previous file versions of network files are not available for restoration or may be accessible via off site tape backups which entail one or more hours of restoration activities and potential additional cost for off site media delivery.

· Eliminate the time and size restrictions of network data backups.
 Current nightly network data backups are encountering time limits due to data amounts and the limited speed of backing up to tape. UI data capacities have increased to the point where they are exceeding the time available each night for these activities. SAN use will allow extremely fast data backups directly to hard drives at night and subsequent offline transfer of data to tape without impact to network performance.

· Access to other SAN resources.
 Access to SAN based resources such as faster and higher capacity Linear Tape Open (LTO) drives will eliminate the use of current inefficient devices and technologies.

· Provision of auditable logging of all network data.
 Essential to protect agency liabilities and for investigative actions.

Impact on clients and services:

Direct client benefits will result from staff access to network data that is faster, easier to understand and more efficient. Web based interfaces to team resources will provide for staff driven organization of their own data in a manner they determine best for their members and business processes. This will enable a common sense approach to data organization providing instant access to all data streamlining staff ability to provide client services. These data network resources can be integrated into a single team based interface, eliminating the confusion experienced by many staff.

Currently, a staff member receiving a client call requesting an information update may have to search for information located in several areas, accessing files located on archaic named network identifiers such as olyuidf1:\\teaminfo\clientrequests\completedrequests\johndoerequest1236789.doc. If this document was accidentally modified or deleted, the staff person will then be required to make a request to the Technical Support Center and the most recent file server backup will need to be accessed and restored so it can be accessed. The current file server storage limitations constantly result in disruption of nightly backup operations and the previous file version may not even be available. Clients may be required to wait several days before the information can be made available or may have to be reassembled by staff, requiring the further investment of staff FTE hours.

The consolidation of UI's resource servers and integration of viable storage resources will eliminate this common scenario. Through the proposed use of redundant hardware systems and expanded storage capacities, all integrated into an Microsoft Active Directory based system providing staff driven access to current and previous versions of all files, clients and client service responses will improve. Staff will be able to use a Windows or Web based access to all files and with two clicks of the mouse, have a listing of current and previous file versions which can then be selected and access immediately. Information that once took several hours to several days to access is now accessible with a click of a mouse.

Impact on other state programs:

State of Washington
Decision Package

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All resource server information is currently at risk to some degree to delayed access or susceptible to corruption due to aging maximized server resources. Other state programs dependent upon this information could be impacted. Replacement of these antiquated systems will eliminate this risk.

Relationship to capital budget:

This section is not applicable to this proposal.

Required changes to existing RCW, WAC, contract, or plan:

In order to satisfy the federal requirements for an appropriation of Reed Act funds to the Employment Security Department, any appropriation of Reed Act funds in the appropriation bill should include proviso language such as:

"$ x" is appropriated to the Employment Security Department from the Unemployment Compensation Administration Account - Federal, from funds made available to the State by Section 903 (d) of the Social Security Act, for "y purpose".

Alternatives explored by agency:

Individual server replacement is an alternative. Server room facility expansions would need to be considered to provide the additional electrical, space and cooling required due the efficiencies lost by consolidating the server services into a Blade Center environment. Estimated individual server replacement cost will approximate those of the entire Blade Center.

Budget impacts in future biennia:

Costs for Blade Center is one-time, with no impact on future biennia. Although there will be ongoing maintenance costs for some of the infrastructure components, they will be covered by the department's federal funding and will have no impact on future biennia.

Distinction between one-time and ongoing costs:

Any ongoing costs will be covered by the department's federal funding.

Effects of non-funding:

Non-funding of this proposal will leave the high risk network data environment in place. Critical data loss will continue to occur as the minimally redundant environment becomes non-redundant due to continued hardware component failures. Hardware can not be replaced due to unavailability of replacement parts. UI staff FTE hour investment will increase with data loss and the resulting data recreation required to replace lost documents, files and spreadsheets. Additionally, continued facility improvements may be required to compensate the continued use of inefficient equipment.

Expenditure Calculations and Assumptions:

Storage Area Network (SAN) Compatible BladeCenter Chassis - $24,995

SAN Compatible File, Print, Anti-Virus and Application Server Blades (8 total)- $37,784

SAN Server with 14 Hard Drives (3,000 MB of usable storage capacity)- $32,846

Windows 2003 Server Standard Licenses (8)- $3,840

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Object Detail		FY 2006	FY 2007	Total
J	Capital Outlays	99,465		99,465